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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,419	01/20/2004	Takahiko Iriyama	VX012307	7769

21369 7590 10/05/2005

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EXAMINER

SHEEHAN, JOHN P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,419

Applicant(s)

IRIYAMA ET AL.

Examiner

John P. Sheehan

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-7 and 9-18 is/are pending in the application.
4a) Of the above claim(s) 9-13 and 15-18 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 4-7 and 14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/865,476.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date January 20, 2004.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1, 4 to 7 and 14 in the reply filed on August 12, 2005 is acknowledged. Non-elected claims 9 to 13 and 15 to 18 are withdrawn from further consideration in this application.

Claim Numbering

2. Applicants are reminded that in the Preliminary Amendment submitted January 20, 2004 4 new claims were added, which were misnumbered as 15, 16, 17 and 19. The last listed new claim was misnumbered as 19, rather than 18. In view of this, the Examiner has renumbered the last listed new claim as 18. Thus, the newly added claims have been numbered as 15, 16, 17 and 18.

Priority

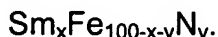
3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/865,476, filed on May 29, 2001.

Information Disclosure Statement

4. The Examiner acknowledges receipt of the Information Disclosure Statement submitted January 20, 2004. Applicants are advised that the Examiner changed the last listed reference from US Patent No. 5,968,210 (entitled, Electrolytic Capacitor and Method of Manufacture) to US Patent No. 5,968,290 (entitled, Permanent Magnet Material and Bonded Magnet). US Patent No. 5,968,290 is consistent with the prior art cited in applicants' patent application Serial No. 09/865,476. If this change by the Examiner is unacceptable to applicants, applicants are requested to so advise the Examiner in their response to this Office action.

Claim Interpretation

5. Claim 1 recites the claimed SmFeN magnet material in terms of a formula;



Claims 4 to 6 optionally add an additional rare earth and Co to the claimed magnetic material. In view of the fact that claims 4 to 6 optionally add additional elements to the magnetic material of claim 1, the composition of the magnetic material recited in claim 1 is not considered to be limited to the Sm, Fe and N recited in claim 1, but rather is considered to be open to additional elements.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4 to 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuno et al. (Fukuno, US Patent No. 5,916,376).

Fukuno teaches a rare earth-iron-nitrogen magnetic material with the TbCu_7 crystal structure having a composition that, in view of the explanation above under the heading "Claim Interpretation", overlaps the composition recited in applicants' claim 1 and 4 to 7 (column 2, lines 29 to 43). Fukuno also teaches a specific example of a Sm-Fe-N alloy having the TbCu_7 structure (column 11, line 41), a composition that with the exception of the Sm content is encompassed by applicants' claims, a grain diameter of 200 nm (0.2 microns) and a thickness of 19 microns that are also encompassed by the instant claims. (columns 11 and 22, Table 1, Example 105). Fukuno teaches that this alloy composition is pulverized and therefore is in powder form (column 11, lines 58 to 59). It is the Examiner's position that the phrase, "up to" used to describe the lower limit for the amount of rare earth that can be substituted for Sm in claims 4 and 5 and the lower limit for Co that can be substituted for Fe in claim 6 reads on zero. These claims therefore do not require the presence of additional rare earths in the case of claims 4 and 5 or the presence of Co in the case of claim 6. Thus, Fukuno's Example 105 closely approximates the applicants' claimed alloy composition. Fukuno also teaches that the disclosed magnetic powder is used to make bonded magnets as recited in applicants' claim 14 (for example, see column 1, line 6 to 8 and column 10, lines 36+).

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The claims and Fukuno differ in that Fukuno does not teach the exact same proportions as recited in the instant claims. Regarding Fukuno's Example 105, the only difference between the instantly claimed alloy and Fukuno's Example 105 is that Fukuno's Example 105 contains 7 at.% Sm while the instant claims recite a minimum Sm content of greater than 7.1 at.%.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Fukuno overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding Fukuno's Example 105, it is the Examiner's position that, Fukuno's Example 105 that contains 7 at% Sm closely approximates the instantly claimed alloy composition that requires greater than 7.1 at% Sm and that the compositions are so close that one would have expected that Fukuno's Example 105 and the claimed alloy

to have the same properties, Titanium Metals v. Banner, 227 USPQ 773 and MPEP 2144.05.

Response to Arguments

8. Applicant's arguments filed January 20, 2004 have been fully considered but they are not persuasive.

9. Applicants argue that the claims now require greater than 7.1 at. % Sm whereas Fukuno's Example 105 teaches 7 at. % Sm and that these Sm proportions are mutually exclusive and that since Fukuno's Example 105 is an example of a prior art alloy one of ordinary skill in the art would not be motivated to modify Fukuno's Example 105. The Examiner is not persuaded. As set forth above in the statement of the rejection, the composition of applicants' claimed alloy and Fukuno's Example 105 are so close that one would have expected that Fukuno's Example 105 and the claimed alloy to have the same properties, Titanium Metals v. Banner, 227 USPQ 773 and MPEP 2144.05.


10. Applicants argue that Fukuno's disclosure requires the presence of zirconium and that one of ordinary skill in the art would not be motivated to eliminate zirconium for Fukuno's composition. The Examiner is not persuaded. In view of the explanation above under the heading "Claim Interpretation", applicants' claims do not preclude the presence of zirconium as taught by Fukuno.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps